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Before the
FEDERAL COMMUNICATIONS COMMISSION
 Washington, DC 20554

OCT 12 2000

FEDERAL COMMUNICATIONS COMMISSION
 OFFICE OF THE SECRETARY

In the Matters of)	
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Deployment of Wireline Services Offering)	CC Docket No. 98-147
Advanced Telecommunications Capability)	
)	
and)	
)	
Implementation of the Local Competition)	CC Docket No. <u>96-98</u>
Provisions of the)	
Telecommunications Act of 1996)	

COMMENTS OF ADVANCED TELCOM GROUP, INC.

Advanced TelCom Group, Inc. ("ATG"), by its counsel, herein files its comments in response to the Commission's "Order on Reconsideration and Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Fifth Further Notice of Proposed Rulemaking in CC Docket No. 96-98," FCC No. 00-297, released August 10, 2000 (the "NPRM") in the above-captioned proceeding.¹ ATG is a competitive local exchange carrier ("CLEC") headquartered in Santa Rosa, California, providing local telephone service, domestic and international long distance service, Internet and data services, including high-speed DSL services, and other enhanced voice services.

ATG's comments in this proceeding are narrowly tailored to address the issue on which the Commission requested comment at Paragraph 81 of the NPRM: a demonstration of the specific

¹ See *Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147 and 96-98, Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Fifth Further Notice of Proposed Rulemaking in CC Docket 96-98, FCC 00-297 (rel. August 10, 2000). By Public Notice, the Commission extended the comment deadline in this proceeding until October 12, 2000. See Public Notice DA 00-2036, "Common Carrier Bureau Extends Pleading Cycle for Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Fifth Notice Of Proposed Rulemaking in CC Docket No. 96-98" (rel. Sept. 6, 2000).

types of equipment that are necessary for a CLEC to interconnect with an ILEC's network or to gain access to an ILEC's unbundled network elements ("UNEs") and the importance of allowing all such equipment to be physically collocated at the ILEC's facility. Moreover, as the complexity of telecommunications networks increases, and telecommunications equipment continues to become more multi-functional, it would severely hinder the development of those networks and the emergence of telecommunications competition if the Commission were to limit the ability of telecommunications providers to collocate equipment that has built-in capabilities other than those used directly for interconnection or access to UNEs. To the extent that equipment being collocated includes additional capabilities, limiting the ability of a collocater to fully use those capabilities imposes inefficiencies that favor the continuation of market domination by the incumbents and limits competition.

Attached hereto is the *Declaration of Chuck Seefloth*, ATG's Vice President, Network Operations, Engineering, and Planning ("*Seefloth Declaration*"),² listing the types of devices and equipment that ATG typically seeks to collocate in ILEC central offices, detailing the functionalities of each unit and explaining how each is necessary, required, or indispensable to ATG's interconnection or access to UNEs. The *Seefloth Declaration* identifies the specific types of concentration devices, transport devices and cross connect systems, multiplexers, and DSLAMs, and power distribution equipment that ATG currently includes, or that it plans to include, in its collocation configurations. *See Seefloth Declaration*.

As stated in the *Seefloth Declaration*, no device or piece of equipment that ATG seeks to collocate is currently used for any purpose other than the direct needs of interconnection and UNE

² See *Declaration of Chuck Seefloth*, Vice President, Network Engineering and Planning, Advanced TelCom Group, Inc. ("*Seefloth Declaration*"), attached hereto as "*Attachment 1*."

access. For example, concentration devices are a necessary aspect of interconnection or access to UNEs since such devices are needed to concentrate traffic to make more efficient use of network resources. Cross connects are similarly fundamental for interconnection and access to UNEs. ATG must also deploy transport equipment as part of its interconnection to the ILEC's network and access to the ILEC's UNEs in order to provide services with the same efficiency and redundancy as the ILEC does within its own network. The collocation of multiplexers is a necessary aspect of interconnection and access to UNEs because these devices are required to convert lower bandwidth services to the higher bandwidth transport facilities that are necessary for the efficient use of network resources. Multiplexing devices are needed to interconnect with the ILEC network and access UNEs in the same manner that the ILEC configures and utilizes its network components. DSLAMs are critical to the interconnection process because they are necessary for CLECs, such as ATG, to provide DSL services using ILEC UNEs. Power distribution equipment is needed to distribute power to the above devices and equipment.

ATG's use of this equipment and ATG's need to collocate these devices in the ILEC's central offices are necessary to compete at the same level of functionality and efficiency as the ILECs. Collocating at an ILEC's central office facilitates more efficient and economical interconnection and access to UNEs. If ATG were unable to collocate this hardware in an ILEC's central office, ATG would have to incur considerable additional expense to distribute its equipment within its network in an inefficient and uneconomical manner. As a result, ATG's ability to compete on a level playing field with ILECs would be substantially impaired. *See Seefloth Declaration.*

To the extent that any of this equipment can be used for purposes other than interconnection or UNE access, ATG is either not making use of such capability or such capability is inextricably intertwined with the primary use of the equipment such that it cannot practically be removed. *See*

Seefloth Declaration. Furthermore, the mere fact that any of these pieces of equipment integrate additional functionalities not utilized directly for interconnection or access to UNEs does not render the equipment any less necessary for purposes of interconnection and access to UNEs.

Moreover, where equipment is being developed for future use that will more efficiently combine the functions of hardware that currently may be collocated at ILEC premises, such equipment will be as necessary for interconnection or access to UNEs as is the equipment that is currently being used for these purposes. The development and testing of such equipment is discussed in the *Declaration of Curtis E. Wheeling*, ATG's Chief Technology Officer.³ If the Commission were to limit the ability of CLECs to collocate next generation equipment that perform multiple functions, the Commission would be freezing the development of telecommunications technology and ensuring that CLECs will not be able to take advantage of further efficiencies that currently remain in the development stages. *See Wheeling Declaration.*

Not only would permitting the collocation of next generation equipment impose no greater burden on the ILEC's resources, it would be no less necessary for interconnection to the ILEC's facilities or access to the ILEC's UNEs than is allowing the collocation of multiple individual devices that perform functions that new equipment will perform in a single unit. Conversely, prohibiting the collocation of such equipment would impose a competitive barrier on the development of competition by CLECs by limiting their ability to take advantage of advanced technologies, with no comparable restriction being imposed on ILECs. *See Wheeling Declaration.*

Finally, restricting a CLECs' ability to collocate multi-functional equipment, as this equipment evolves over time, would distort the market such that competitive carriers could not provide to

³ *See Declaration of Curtis E. Wheeling*, Chief Technology Officer, Advanced TelCom Group, Inc. ("*Wheeling Declaration*"), attached hereto as "*Attachment 2*."

consumers the cost savings and benefits of the lower costs per line and increased efficiencies that such equipment would otherwise allow.

Accordingly, as the Commission reviews the record in this proceeding, it should remain sensitive to the need for adopting rules that will permit CLECs to take full advantage of impending advances in telecommunications technology so that they may more efficiently provide competitive telecommunications services. Adopting rules that in any way limit the functionalities of equipment that may be collocated at an ILEC's facility or that prohibit collocators from fully utilizing the functionalities of their equipment that is necessary for interconnection purposes, would undercut the basic pro-competitive purposes of the Telecommunications Act of 1996, and be inconsistent with the Act's requirements to allow for collocation on just, reasonable, and non-discriminatory terms and conditions. 47 U.S.C. § 251(c)(6).

In conclusion, the Commission should adopt rules that expressly permit CLECs to collocate all of the types of equipment described herein and in the *Seefloth Declaration*, and any other types of equipment with similar functionalities that are currently available or may become available. These types of equipment provide functionalities needed by CLECs in order to interconnect with ILECs and access ILEC UNEs. The collocation of these types of equipment is also essential for CLECs to gain the same network efficiencies and reliability realized by the ILECs. Rules that prohibit the collocation of such equipment would stifle the ability of CLECs to compete on a nondiscriminatory basis with ILECs, contrary to the expressly stated intent of the Telecommunications Act of 1996.⁴

⁴ See Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

Respectfully submitted,

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Its Attorneys

Dated: October 12, 2000

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COMMENTS OF ADVANCED TELCOM GROUP, INC.

ATTACHMENT 1

DECLARATION OF CHUCK SEEFLOTH

Declaration of Chuck Seefloth

1, Chuck Seefloth, hereby state as follows:

1. I am Vice President, Network Operations, Engineering, and Planning of Advanced TelCom Group, Inc. ("ATG"). I have held that position since 1999 and I have 29 years of experience in working with telecommunications systems and network operations.

2. In this capacity, one of my job responsibilities is to plan for and implement the collocation of ATG's equipment within the central offices of incumbent local exchange carriers ("ILEC's").

3. In determining which equipment to collocate in an ILEC's central office, ATG is guided by the principle that we will seek to collocate equipment in an ILEC's central office that will enable ATG to interconnect its facilities to the ILEC's network or obtain access to the ILEC's unbundled network elements ("UNEs") or that will enable ATG to carry out the operational functions that are necessary in connection with the interconnection process and to access the ILEC's UNEs.

4. The types of devices and equipment that ATG seeks to collocate are the same types of devices and equipment that ILECs use in their own networks. In addition, ATG uses these types of devices and equipment in the same manner as the ILECs currently use such items. Finally, ATG would use these types of devices and equipment to connect to the same facilities that the ILECs connect to in their own networks when using these items. Clearly ATG's use of these types of devices and equipment and ATG's collocation of the same in the ILECs central offices is necessary to compete at the same level of functionality and efficiency as the ILECs.

5. If ATG were unable to collocate the types of devices and equipment identified below in ILEC central offices, ATG would be forced to incur considerable additional expense to distribute its equipment within its network and provide or purchase additional equipment and services to access the ILEC's UNEs and interconnect with the ILEC. ATG would therefore be forced to configure its network in an inefficient and uneconomical manner while still trying to utilize ILECs' UNEs in the same manner as the ILEC utilizes those elements within its own network. In addition, these configurations would introduce additional potential failure points into ATG's network which do not exist in the ILEC network. Were ATG forced to operate using such bizarre configurations, ATG's ability to compete on a level playing field with ILECs would be substantially impaired.

6. The telecommunications industry today is on the threshold of many changes in the functionality of telecommunications equipment. On a forward-looking basis, telecommunications technology is moving toward an integration of function and a convergence of various technologies (e.g. voice, IP, data, ATM). This convergence into a single technical platform includes decentralizing the switching function to the edge of the network. In fact the evolution of the telecommunications network and much of the equipment presently being deployed is occurring, in part, with the expectation that competing carriers will be allowed to

collocate non obstructive edge switching devices in the ILEC central offices as long as those pieces of equipment conform to accepted compliance standards for space, power and heat dissipation. ATG is positioning itself to take advantage of the additional functionality being added to telecommunications equipment so that ATG can more efficiently and economically connect to and utilize the very same UNEs that ATG is currently leasing from ILECs and continue to use its collocated equipment to interconnect with the ILEC networks.

7. ATG's actual and planned collocation configurations at ILEC central office consist of the following types of devices and equipment necessary to perform functions that are essential to interconnection and UNE access:

- a) **Concentration Devices**. ATG must deploy one or more concentration devices to terminate network elements for the provisioning of POTS, ISDN, and analog trunk services. These devices include next generation digital loop carriers, and other devices such as channel banks, GR 303 concentration devices and subscriber loop carriers. In the future, these devices will become capable of providing a wider range of services, such as xDSL, than they are currently capable of providing. Examples of these devices are:

- Lucent Anymedia Fast Shelf
- CISCO 6732
- Zhone Sechtor 300
- Zhone BAN
- DAML

Concentration devices are necessary to concentrate traffic in order to more efficiently utilize bandwidth. ATG uses these devices in essentially the same manner that ILECs do -- to concentrate traffic in order to make more efficient use of network resources. Accordingly, concentration devices are a necessary aspect of ATG's efficient interconnection with an ILEC's network, or access to its UNEs.

- b) **Transport and Cross Connect**. ATG will also deploy transport devices and cross connect systems to enable efficient transport and distribution of required facilities. In some ATG collocation arrangements, these functions are (or are soon to be) provided by a single piece of equipment and in other arrangements, ATG uses more than one piece of equipment to gain this functionality. Examples are of these types of devices are:

- Lucent FT2000 OC-48
- Astral Point ON-5000
- CISCO 15454
- Quantum Bridge QB 5000
- DDM 2000
- Nortel OC-n Transport Node.

- DSX-1 Panel
- DSX-3 Panel

Cross connects remain fundamental to ATG's interconnection and access to an ILEC's UNEs. ATG must also deploy transport equipment to move traffic from the collocation space with the same efficiency and redundancy as the ILEC does within its own network.

- c) **Multiplexers**. ATG uses multiplexers to allow two or more sub-rate signals to pass through the same communication path for the economical and efficient transport of services. Examples of these types of devices are:

- NEC RC28 D
- M-13 Multiplexers
- CAC Widebank 28
- DDM 2000
- Telco Systems Edgelink 100

Multiplexers are necessary for interconnection since they are an integral aspect of moving lower bandwidth services onto the higher bandwidth transport facilities that are necessary for the efficient use of network resources.


- d) **DSLAMs**. ATG deploys digital subscriber loop access multiplexers (DSLAMs) to provide xDSL service on unbundled loops obtained from the ILEC. Examples of these types of devices are:

- Nokia D50 DSL Access Mux (DSLAM)
- Paradyne DSLAM

DSLAMs are necessary to the interconnection process since they are necessary in order for ATG to provide DSL services using an ILEC's UNEs.

- e) **Power Distribution**. As part of our collocation design, ATG deploys industry-approved power distribution equipment to distribute the power purchased from the ILEC to the various devices and pieces of equipment in the collocation area.

I hereby declare under penalty of perjury that the foregoing is true and correct.


Chuck Seefloth

October 12, 2000

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COMMENTS OF ADVANCED TELCOM GROUP, INC.

ATTACHMENT 2

DECLARATION OF CURTIS E. WHEELING

Declaration of Curtis E. Wheeling

I, Curtis E. Wheeling, hereby state as follows:

1. I am a co-founder and Chief Technology Officer of Advanced TelCom Group, Inc. ("ATG"). I have held this position since July of 1999. Prior to my tenure as Chief Technology Officer, I was Senior Vice President of Marketing for ATG. I have 32 years of experience in working with telecommunications and data processing technology.
2. In my current position, my major responsibility is to ensure that ATG is leading the industry in the deployment of the latest technology. These are exciting times for the telecommunications industry. I believe that with the advances in optical transmission equipment, developments of next generation packet switching platforms, the emergence of Integrated Access Devices, and the convergence of voice and data services and related applications, we will fundamentally re-architect communications networks around the world in this coming year.
3. The next generation telecommunications technologies are clearly packet- or cell-based and not the traditional circuit switched technology of the past. More and more functionality is being integrated into the next generation products. Optical multiplexing interfaces, packet/cell based routing and switching capabilities, digital cross connect matrices, and various Class 5 feature sets are all being integrated into these next generation products. The telecommunications world today is clearly digital.
4. Technologies such as Voice over DSL, Voice over IP, Voice over ATM are making the convergence of voice, data and video applications a reality that are enabling service providers like ATG to deliver enhanced services to our customers. In the broadband digital world it becomes increasingly difficult, if not impossible, to distinguish a voice bit from a data or video bit. They are all just ones and zeros traveling on the same link.
5. We are clearly moving into an ever more decentralized switching and networking architecture. The days of the exclusive domain of large centralized Class 5 telephone switches are over. This is roughly analogous to the advent of the PC and the reduction in significance of the mainframe. Next generation voice and data packet/cell equipment from companies like Tachion Networks, Taqua Systems, Sonus Networks, Santera Systems, and others make it far more economical to distribute the converged technology fabric to the edge of the network rather than building large Class 5 switches and backhauling voice and data traffic from surrounding ILEC collocations tens, and even hundreds of miles to be switched, only to be returned to the source in the case of a local call. This equipment will need to talk seamlessly to the existing Class 5 switches, which will remain in the public switched network for some time.
6. Therefore, these next generation platforms need to be thoroughly tested before being deployed in a live network. To that end, ATG is investing several million dollars in a state-of-the-art Interoperability Testing Laboratory in Santa Rosa, California. Our Lab is the only one of its kind in the United States that I know of that is both voice and data oriented. There is clearly a need in the industry as vendor participation in the Lab has been overwhelming. The Lab will give ATG the opportunity to get a first look at these next generation platforms and to fully test

the products to ensure that the integrity of our networks is preserved and the best quality of service can be delivered to our customers.

7. These converged and integrated platforms will provide, in addition to other functionalities, the functions necessary for interconnection and access to UNEs. These technologies will result in lower costs per customer served, require far less space in the collocations, consume less energy, and require far less environmental treatment. Obviously these products will adhere to the NEBS specifications and pose no health or safety hazards.

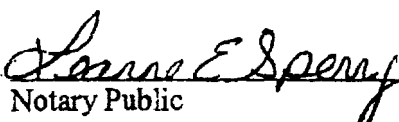
8. If competitive service providers are forced into virtual collocations in adjacent or nearby facilities to the ILEC central offices because of restrictions on what technology can be deployed in an ILEC collocation, this will add significant costs to the competitive service provider and introduce additional, and undue failure points in connecting to the Unbundled Network Elements to deliver next generation services.

9. In conclusion, if we are to bridge the digital divide for both business and residential services, competitive service providers like ATG must be allowed to install this next generation technology in the ILEC collocations. Any restrictions, other than those for health, safety and environmental reasons, on the functionality of the equipment that is allowed to be placed in ILEC collocations will put competitive service providers at a serious competitive and economic disadvantage.

I hereby declare under penalty of perjury that the foregoing is true and correct.


Curtis E. Wheeling

Sworn and subscribed to before me this 12th day of October, 2000.


Notary Public

My Commission Expires: December 30, 2003

